



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/810,198

03/26/2004

David Fifield

BP 3200

8653

34399 7590 06/20/2007
GARLICK HARRISON & MARKISON
P.O. BOX 160727
AUSTIN, TX 78716-0727

EXAMINER

DAGLAWI, AMAR A

ART UNIT

PAPER NUMBER

2618

MAIL DATE

DELIVERY MODE

06/20/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/810,198	FIFIELD, DAVID	
	Examiner	Art Unit	
	Amar Daglawi	2618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1, 2, 7, and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wyse et al (US 6,894,476 B2) in view of Gilbert et al (US 6,686,812 B2).

With respect to claim 1, Wyse discloses a directional coupler (Fig.1, 100) comprising: an envelope detector (Fig.1, 106); and

Distortion minimization circuitry operable to minimize distortion generated by said envelope detector at frequencies corresponding to said predetermined frequency and harmonics thereof (Fig.1, Fig.2, col.1, lines 45-67, col.2, lines 1-30, col.3, lines 24-45).

However, Wyse fails to teach a radio module operable to generate an RF signal at a predetermined frequency and a directional coupler operably connected to said radio module to measure the power of the RF signal.

In related art Gilbert teaches a miniature directional coupler with a coupler 10 connected to measure the forward and reverse signal powers associated with an RF signal source (radio module) (Fig.1, col.3, lines 20-60) [The Rf signal source (radio module) is coupled to the coupler 10].

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the teachings of the coupler detector 100 as taught by Wyse to be incorporated with the coupler connected with the rf signal source (radio module) so as to calculate the power generated by the radio frequency signal source.

With respect to claim 2, Wyse as modified by Gilbert further teaches the envelope detector comprises a detector diode and a capacitor (Fig.2, 226, 230).

With respect to claim 7, Wyse discloses using a directional coupler (Fig.1, 100) having an envelope detector (Fig.1, 106) and minimizing distortion generated by said envelope detector at frequencies corresponding to said predetermined frequency and harmonics thereof (col.1, lines 45-67, col.2, lines 1-30, col.3, lines 24-45, Fig.1, Fig.2).

However, Wyse fails to teach generating an Rf signal at predetermined frequency, measuring the transmitted power of the Rf signal using a directional coupler.

In related art Gilbert teaches a miniature directional coupler with a coupler 10 connected to measure the forward and reverse signal powers associated with an RF signal source (Fig.1, col.3, lines 20-60).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the teachings of the coupler detector 100 as taught by Wyse to be incorporated with the coupler connected with the rf signal source (radio module) so as to calculate the power generated by the radio frequency signal source.

With respect to claim 8, Wyse as modified by Gilbert further teaches the envelope detector comprises a detector diode and a capacitor (Fig.2, 226, 230).

Claims 3 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wyse et al (US 6,894,476 B2) in view of Gilbert et al (US 6,686,812 B2) as applied to claims 2 and 8 above, and further in view of Morita (US 6,466,463 B1).

With respect to claims 3 and 9, Wyse as modified by Gilbert teaches all the limitations of claims 2 and 8 and further teaches first capacitor having a capacitance value for minimizing distortion in the frequency band corresponding to the fundamental frequency of said RF signal (Fig.1, col.3, lines 5-45) but fails to teach distortion is minimized by connecting a first capacitor to said diode.

In the same field of endeavor Morita teaches a rectifying smoothing circuit 6 comprises a rectifying diode and a smoothing capacitor (Fig.1, 6, par 0027) to reduce harmonic distortion.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the coupler detector circuit as taught by Wyse as modified by Gilbert with the rectifying smoothing circuit 6 (rectifying diode and smoothing capacitor) as taught by Morita so as to reduce the harmonic distortion generated by the detector circuit.

Claims 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wyse et al (US 6,894,476 B2) in view of Gilbert et al (US 6,686,812 B2) and further in view of Plotnik et al (US 6,873,608 B1).

With respect to claim 13, Wyse discloses a directional coupler (Fig.1, 100) comprising: an envelope detector (Fig.1, 106); and

Distortion minimization circuitry operable to minimize distortion generated by said envelope detector at frequencies corresponding to said predetermined frequency and harmonics thereof (Fig.1, Fig.2, col.1, lines 45-67, col.2, lines 1-30, col.3, lines 24-45).

However, Wyse fails to teach a radio module operable to generate an RF signal at a predetermined frequency and a directional coupler operably connected to said radio module to measure the power of the RF signal.

In related art Gilbert teaches a miniature directional coupler with a coupler 10 connected to measure the forward and reverse signal powers associated with an RF signal source (radio module) (Fig.1, col.3, lines 20-60) [The Rf signal source (radio module) is coupled to the coupler 10].

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the teachings of the coupler detector 100 as taught by Wyse to be incorporated with the coupler connected with the rf signal source (radio module) so as to calculate the power generated by the radio frequency signal source.

Furthermore, Wyse as modified by Gilbert fails to teach a host interface and a radio module operably connected to said host interface.

In the same field of endeavor Plotnik teaches a communication system utilizing host signal processing (Fig.9, 236, col.15, lines 25-50) [the host interface is connected to the radio module].

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify coupler detector 100 as taught by Wyse as modified with the radio module taught by Gilbert with the host interface further taught by Plotnik so as to rout data to the radio module before being processed by the coupler.

With respect to claim 14, Wyse as modified by Gilbert further teaches the envelope detector comprises a detector diode and a capacitor (Fig.2, 226, 230).

Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wyse et al (US 6,894,476 B2) in view of Gilbert et al (US 6,686,812 B2) and further in view of Plotnik et al (US 6,873,608 B1) as applied to claim 14 above and further in view of Morita (US 6,466,463 B1).

With respect to claim 15, Wyse as modified by Gilbert and further modified by Plotnik teaches all the limitations of claim 14 and further teaches first capacitor having a capacitance value for minimizing distortion in the frequency band corresponding to the fundamental frequency of said RF signal (Fig.1, col.3, lines 5-45) but fails to teach distortion is minimized by connecting a first capacitor to said diode.

In the same field of endeavor Morita teaches a rectifying smoothing circuit 6 comprises a rectifying diode and a smoothing capacitor (Fig.1, 6, par 0027) to reduce harmonic distortion.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the coupler detector circuit as taught by Wyse as modified by Gilbert and Plotnik with the rectifying smoothing circuit 6 (rectifying diode and smoothing capacitor) as taught by Morita so as to reduce the harmonic distortion generated by the detector circuit.

Allowable Subject Matter

Claims 4-6, 10-12, 16-18 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for indication of allowable subject matter:

With respect to claims 4, 10 and 16, The prior art of record does not teach or fairly suggest in combination with the other claimed limitations said distortion minimization circuitry further comprises a second capacitor connected to said diode said

Art Unit: 2618

second capacitor having a capacitance value for minimizing distortion in the frequency band corresponding to the second harmonic of said fundamental frequency of said RF signal.

Claims 5-6, 11-12, 17-18 are objected to for the same reason above.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Nagano et al (US 6,271,723 B1) teaches a distortion-compensating device.

Kahn (US 4,811,422) teaches a reduction of undesired harmonic components

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Amar Daglawi whose telephone number is 571-270-1221. The examiner can normally be reached on Monday- Friday (7:30 AM- 5:00 AM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edan Orgad can be reached on 571-272-7884. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2618

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Amar Daglawi



EDAN ORGAD
PRIMARY PATENT EXAMINER

 6/10/07